

我国盾蚧科一新记录属及三新种(同翅目)

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山西地形狭长,南部和东南部可渗入东洋区昆虫,北部与内蒙古接壤,有来自东北亚、西伯利亚,中亚细亚,甚至远源地中海成员,所以蚧类区系应该是丰富的。然而解放前调查研究工作做得很少,正式记录不超过10种,其中有美国的 C. L. Marlatt, 约在1901年深入山西调查梨园蚧 *Quadraspidiotus perniciosus* (Comst.), 于五台山发现小腺雪盾蚧 *Chionaspis micropori* 一新种。以后相距40年之久,即至1942年,有日本的神田重夫(S. Kanda)进入本省南北境,主要是同蒲路沿线,共记录8属8种,其中有发现于太原的夹竹桃棉蚧 *Pulvinaria nerii* 解放后加上国内外报道的零星记录,总数最多达20种,所以山西是我国蚧类区系研究比较少的省份之一。

作者近年接到省内各地生产部门提供的标本,特别是1985年开始在省科委立项,进行了南北约10多个县的调查,将以上标本经研究整理,共计已达6科50属84种,现在这个项目仍在继续进行,这里先发表盾蚧科3属3种,其中有1属是我国新记录,3种为世界新种。

新种的模式标本保存于本校蚧虫标本室。本文长度单位均为 mm。

一、根圆盾蚧属 *Rhizaspidiotus* MacG. 1921

属模式种: *Aspidiotus* (*Targionia*) *helianthi* Parrott, 1899 = *Aspidiotus dearnessi* Ckll. 1898

同属异名: *Chorizaspidiotus* MacG. 1921, (type: *Aspidiotus gutierreziae* Ckll. et Parr., 1899); *Thymaspis* Sulc 1934 (type: *Thy. fusca* Sulc 1934); *Hemiberlesiella* Thiem et Ger. 1934 (type: *Aspidiotus canariensis* Ldgr. 1911)。

此属分布全北区,而以旧北区为主,直至目前已记录10个真实种。本文发现1新种。

1. 太岳根圆盾蚧 *Rhizaspidiotus taiyuensis* 新种(图1)

雌蚧壳圆形,白色,亮点淡黄;雄蚧壳长形,白色,亮点亦黄色。

雌成虫近圆形,长约0.63—0.81,宽0.57—0.70,其中第一亮点长0.43,第二亮点长0.67。体膜质,仅臀板略硬化,板缘有一系列叶状突。触角1长毛,前、后气门腺均无。臀叶5对发达,硬化;中臀叶大而突,内缘近直,外缘斜而直,且具细齿或有时为较大凹缺;其余4对臀叶较小,第三对稍缩入板内。臀栉双叉状, L_1-L_1 , L_1-L_2 间各1对, L_2-L_3 间3个。阴腺4群,共式为(8—9)7—10。背腹面管腺同大,多集中分布于后胸以后的体缘和亚缘区,亚中区仅在体背个别地方有。

本文于1986年7月收到。

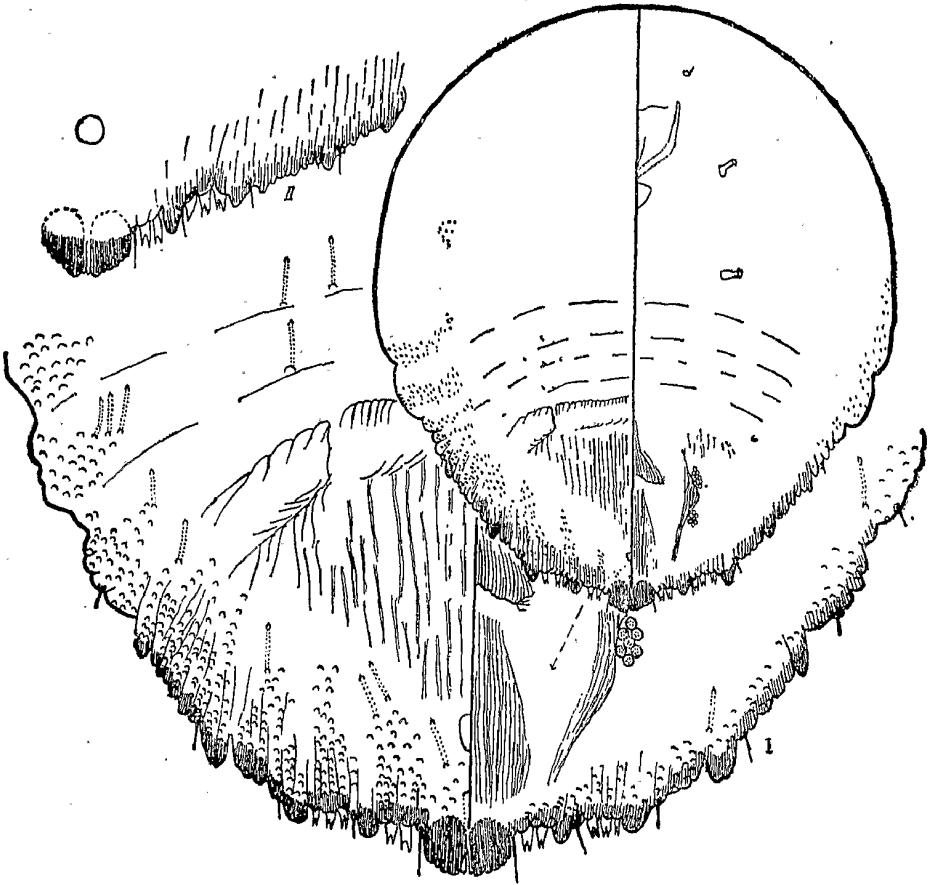


图1 太岳根圆盾蚧 *Rhizaspidiotus taiyuensis* sp. nov. 雌成虫

雌第二龄体末结构如成虫,但臀叶亦见5对。

第一龄若虫触角5节,末节具螺纹,有2端毛,无头管。

模式标本: 正模♀;副模4♀,第二龄2♀,第一龄2♀。1985. VIII. 19, 师光禄采于山西太岳山之艾蒿 (*Artemisia argyrii*) 根茎上。

本新种与旧北区种 *canariensis* Ldgr. (1911) 及新北区种 *dearnessi* Ckll. (1898) 很相近,且均寄生于菊科,但与二者仍不同, *dearnessi* 无阴腺和臀栉,本新种则两者都很发达;与 *canariensis* 区别是: 后种臀叶3对,臀栉不显。新种与本属所有种区别是臀栉蟹爪状,有第5对臀叶。

二、软圆盾蚧属 *Tsugaspidiotus* Tak. et Takagi, 1957

属模种: *Aspidiotus tsugae* Marlatt 1911.

此属截至目前只有记录于日本和朝鲜的二个种 (*tsugae* 存在于苏联远东沿海), 中国尚无记录。这二个种经 Takahashi et Takagi (1957: 102—105) 重新描述,形态基本相似,差别只在 *tsugae* 阴腺5群,臀叶3对宽扁,第三叶锯齿状,中叶间有一大缘管; *psudomeyeri* 则阴腺4群,臀叶3对长而突,第3叶小而圆,中叶间缺一大缘管;两者另一区别是前者臀叶间硬化棒明显,后种则比较不明显。Danzig (1980: 338) 将此属并入北美属:

Nuculspis Ferris(1938)。查北美属亦仅知 2 种,表现臀叶 4 对发达,臀叶间无硬化棒,以后 Borchsenius (1950: 215) 又归入旧北区西部 3 种,此 3 种除第 4 对臀叶都较退化外,其他形态比较一致,即体均硬化,臀叶间均无硬化棒。Danzig 以这 7 种均为害松柏科植物,且臀叶对数和形态,以及 *Pseudomeyeri* 的叶间硬化棒退化而表现了一系列阶梯,遂归并为一个属。

通过观察,叶间硬化棒发育程度、臀叶形态和阴腺群数,即在成虫阶段也因老熟程度、个体不同而有变化,有时且表现于同一虫体的左右半,详情由后描述时说明。由此作者认为 *tsugae* 很可能是老熟型,而 *pseudomeyeri* 则为同种的雌成虫前期。分类的形态应以老熟型为根据,北美和欧洲种已经大多作者描绘过,东亚 2 种则直到目前工作仍属寥寥。否则将因东亚种的少知,而即归并于前属,以致打乱了若干阶元的形态标准。

由此认为本属仍保留,与 *Nuculaspis* 不同的特点是: 1) 体膜质,决不硬化; 2) 臀叶 3 对, L_4 决无; 3) 叶间硬化棒发达成槌状; 4) 肛门大而近臀板端。至于旧北区西部 3 种是否成属,则须进一步研究。

本文采得新种与日本种不同,现描述如下:

2. 云杉圆盾蚧 *Tsugaspidotus piceae* 新种(图 2)

雌雄蚧壳分别为椭圆形、长椭圆形,蜡蚧薄而白色,壳点黄色,位于蜡蚧壳中。

雌成虫从 5 月中到 7 月末均可发现,成虫的标志是见到阴道,阴门和阴腺,且背管数量与第二龄时不同,显著增多,特别是臀前腹节。此种胎生,7 月末见到体内怀有大量若虫的老熟个体,(图 2a),此时体膜质囊状,体长达 0.95—1.00,臀板小而缩入,宽短而略硬化。臀叶 3 对,均呈方形,其内外各一凹缺,叶角明显有槌状硬化棒; L_1 — L_3 顺次变小(L_3 形态锯齿状),叶间距离大,其间有定型刷状臀栉, L_3 外者细长刺状, L_4 决无痕迹。肛门大而近板端,肛后沟明显,其中有一背管,长度不达肛门后缘,其余背管分布如图,集中在缘区和亚缘区,向前直达后胸,亚中小管在臀前腹节亚中区,稀疏存在。阴腺变化大,2—5 群,阴腺式为 0—4(2—3)、0—3。胸侧矩很发达。触角 1 毛。产仔前雌成虫(图 2b)和怀仔后(图 2a) 形态基本相同,但体形不同,呈梨形,臀前部不特大,相对臀板较大,体长约 0.60—0.65,此时叶间硬化棒不明显,但中叶外侧一根较显。

雌第二龄(图 2c) 时体卵形,长约 0.54—0.56,臀板缘结构及背管,臀栉与雌成虫基本相似,但臀前腹节亚缘管,每节仅 2—3 粗管,表现了圆盾蚧类的特点。另外阴门、阴道、阴腺及胸侧矩均不见。

第一龄触角 5 节,末节具螺旋纹,端毛二根,无一对头管,体末结构均表现了圆盾蚧类特征。体椭圆,长约 0.50—0.52。

观察标本: 正模 ♀, 1985. V. 14, 副模 5 ♀, 1985. V. 14, 第 1—2 龄若虫 6 ♀, 1985. VII. 25, 第 1—2 龄若虫 8 ♀, 1985. VII. 25, 30, 水门, 师光禄采于云杉(*Picea asperata*) 针叶上。

新种显与 *tsugae* 同属,不同在于本种臀叶形状与之不同, L_3 定形, L_3 外有臀栉,且中叶间缘背管不达肛门中,另外胸侧矩发达,这些形态也与 *pseudomeyeri* 有别。

三、星片盾蚧属 *Parlatoreopsis* Ldgr. 1912

属模种: *Chionaspis longispina* Newst. 1911.

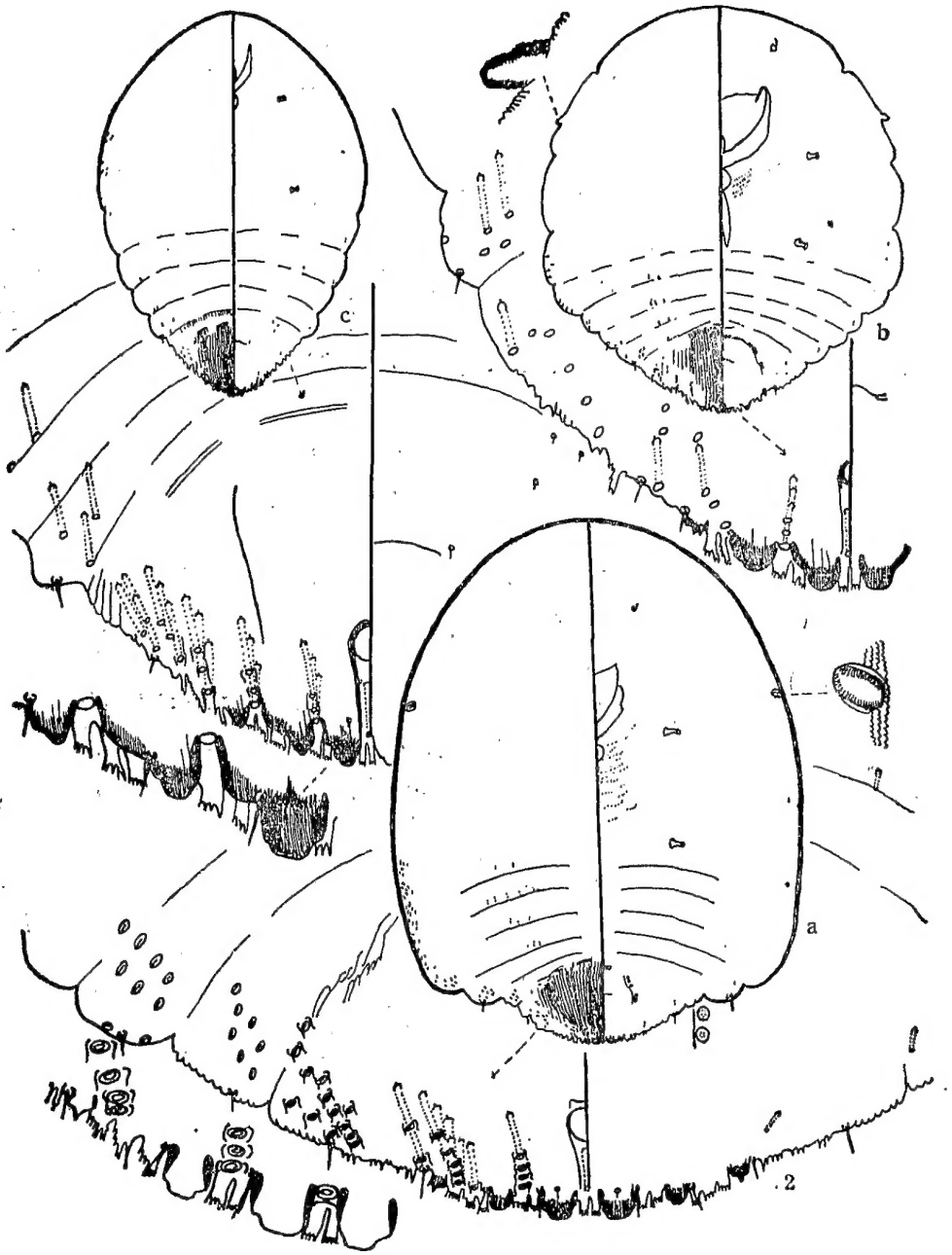


图2 云杉软圆盾蚧 *Tsugaspidiosus piceae* sp. nov.

a. 怀仔雌成虫； b. 怀仔前雌成虫； c. 第二龄雌虫。

此属与 *Parlatoria* 很相近，本文理解区别在于本属臂叶仅二对发达，且在 L_1-L_2 ， L_2-L_3 地位间缘管口内侧硬化棒向内突成槌状。东亚已记录 3 种，另一种在中亚。

3. 槭星片盾蚧 *Parlatoresopsis acerioola* 新种(图 3)

雌蚧梨形，白色，亮点黑色，突出蜡蚧前端，雄蚧长形，色泽、质地同雌蚧。

本种雌虫第二亮点约长 1.30, 雌成虫体长仅 0.60—0.63。雌成虫梨形, 体膜质, 仅臀板略硬化, 触角 1 毛, 前气门腺约 3—4 个, 后气门腺无。口后腹面体壁有颗粒状皮斑。臀板尖削, 两侧缘几乎平行。臀叶 2 对, L_3 全无; 中臀叶大, 内外两侧各一凹缺或外侧斜而有 2—3 凹缺; 第二臀叶远比中叶小, 其外侧显一凹缺。臀板缘腺刺在 L_3 地位以内均呈尖锥状或侧缘有细齿列, L_3 地位以外有一系列, 均呈乳头状而端部有一丝状突, 向前直分布至第一腹节。腺瘤在前气门前 0—2 个, 前气门侧 2—3 个, 中胸 0—1 个, 后胸 0—2 个, 第一腹节 0—1 个, 均呈馒头状, 其内通一粗短大管。臀板上缘背管在中叶间有一个, 有时亦缺; 每侧 7 个, 第 1、2 个内侧硬环变粗, 尤以第 1 个为甚; 亚缘背管每侧只 3 个。臀前体节上背大管分布于亚缘区和缘区, 形成腺管带; 亚中区仅有少数小管, 分布如图。体腹面小管在后气门口与体缘间形成横带。阴腺式: 2—4(10—12)6—11。

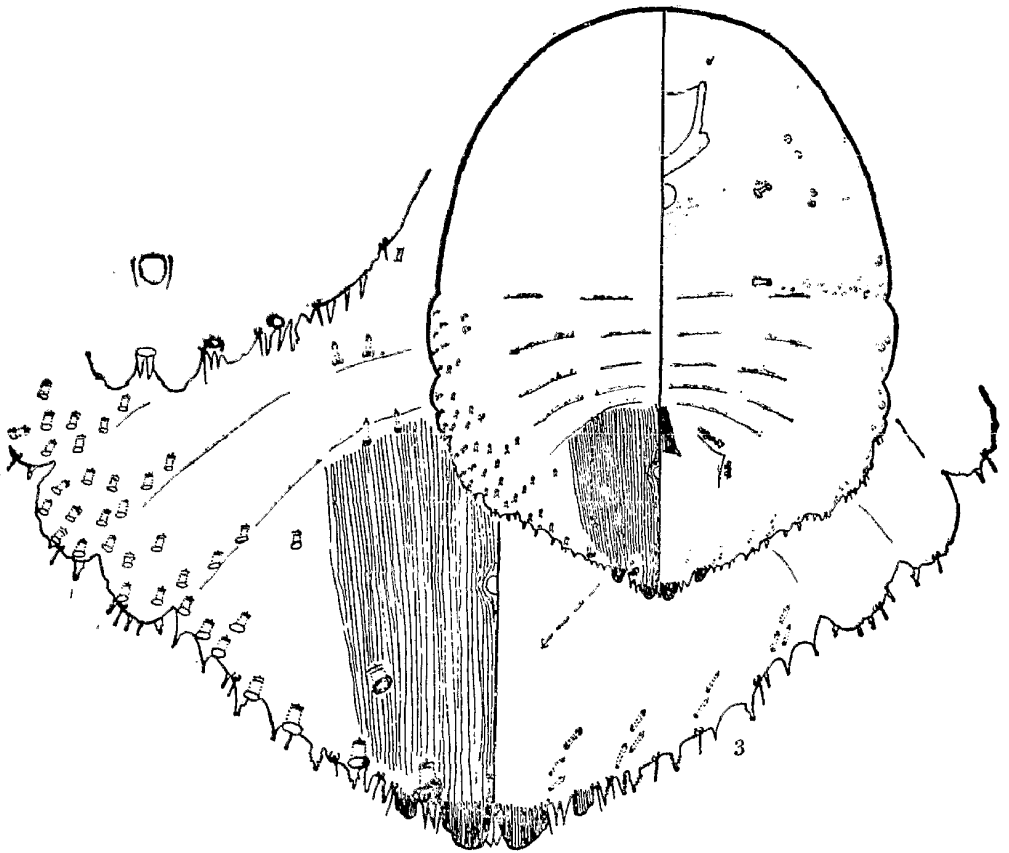


图3 槭星片盾蚧 *Parlatoreopsis acericola* sp. nov.

模式标本: 正模♀, 副模 12♀, 1985. VIII. 21, 师光禄采于山西长治的复叶槭 (*Acer negundo*) 上。

本新种与日本种 *tsugae* Takagi et Kawai 1966 相近, 但特点是: 1) 口后有皮粒斑, 2) 后气门口与体缘间有小管带, 3) 腺瘤很少, 腺刺则多且形状不同, 4) L_3 决无痕迹, 5) 体小, 体长仅为后种二分之一。

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ON A NEWLY FOUND GENUS AND THREE NEW SPECIES OF DIASPIDIDAE FROM CHINA (HOMOPTERA)

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In the course of study on the fauna of Coccoidea, Homoptera, in Shanxi Province, we found three species new to science and one genus new record to China.

All type specimens are deposited in the University's Coccoidea Collection.

1. *Rhizaspidiotus taiyuensis* sp. nov. (fig. 1)

Adult female mounted on slide about 0.63—0.81 mm long and 0.57—0.70 mm wide, derm membranous except for the pygidium weakly sclerotized. Perivulvar pores; (8—9)7—10, scale of female convex and ventral scale formed, white in color, with exuviae yellowish and central in position; of male elongate but similar in texture and color to the female's.

Material examined: Holotype ♀, Paratypes 4♀ and all larval stages collected from Taiyue Mountain in Shanxi, Aug. 19, 1985 on *Artemisia argyrii* by Guang-lu Shi.

The new species is distinguished from others of this genus by ordinarily and stably developed the fourth and fifth lobes on the pygidium which fully with plates present the bifurcate or chelate appearance.

2. *Tsugaspidiotus piceae* sp. nov. (fig. 2)

The genus is for the first time recorded to China. Material found on the needles of *Picea asparata* at Ningwu County, May 14, July 25, 1985 and Shuimen Village, VII 25 and 30, 1985, represents a new species. Material mounted on slides includes different developmental stages. The 2nd stage female (fig. 2c) about 0.54—0.56 mm in length ovoid in shape. The adult female just moulted pyriform in shape (fig. 2b), about 0.60—0.65 mm long, but when fully developed and pregnant, body composed mostly of the enlarged membranous prepygidial portion like a bag, then the pygidium becomes quite small and sunken into the body, by this time the

whole expanded body length about 0.95—1.00mm (fig. 2a). The two periods are very similar to each other morphologically except that the intersgmental marginal sclerites are weak and faint in the young period but obvious in the pregnant period as illustrated in the accompanying figures. The perivulvar pores of two periods are all variable from 2—5 groups: 0—4(2—3)0—3. pygidial lobes are all in 3 pairs, L3 variable even on each side. Thoracic spur and peribuccal granulations present. Dorsal ducts are identical in quantity and distribution.

Based on this, a new problem has arisen in my mind, I wonder whether the two closely similar Japanese species, *tsugae* and *pseudomeyeri*, are distinct or represent the different developmental periods of the same one?

Nevertheless, the present new species is close to *tsugae*, but differs from that by the three pairs of pygidial lobes in different shape and by the presence of plates on the margins beyond the 3rd lobes and a peculiar conical spur on each side of the prothorax.

Material examined: Holotype ♀, May 14, 1985; Paratypes 5♀, with same data, all larval stages collected on *Picea asparata* from Shui-men, Shanxi, Guang-lu Shi, July 25, 30, 1985.

3. *Parlatoreopsis acericola*, sp. nov. (fig. 3)

Adult female scale white with exuviae blackish brown, the 2nd exuvium about 1.30 mm long, but adult female much smaller, only 0.60—0.63 mm in length. Anterior spiracles each with 3—4 disc pores, pygidial lobes in 2 pairs, the 3rd ones never present. Gland tubercles: prespiracular 0—2, anterior spiracular 2—3, intermediate 0—1, posterior spiracular 0—2, 1st abdominal 0—1, gland spines numerous, extending from the posterior apex to the 1st abdominal segment, the interlobal ones spine-like with serrated sides, the anterior ones each like a cone but apically with a slender process. Semilunate paraphyses present obviously between the 1st and 2nd lobes. Perivulvar pores: 2—4(10—12)6—11. Ventral microducts in a transverse band extending from posterior spiracle to the opposite body margin. Peribuccal granulations present. It quite closes to *tsugae* but differs from that by the presence of peribuccal granulations and ventral microducts bend laterad of posterior spiracle, by gland tubercles much fewer. It is distinguished in peculiar gland spines and smaller bodysize.

Material examined: Holotype ♀ and 12♀ paratypes collected from Changzhi, Shani on *Acer negunde*, Aug, 21, 1985, by Guang-lu Shi.